

CLAIMS

1. An electric motor comprising:

an output member of a plate-shaped magnetic material,
provided with at least one radially protruding portion at an
5 outer periphery thereof;

a magnetic flux control member of a magnetic material,
disposed in parallel with the output member in a spaced apart
relationship;

a plurality of electromagnets disposed substantially
10 between respective outer peripheries of said output member and
said magnetic flux control member, one end thereof arranged
spaced apart from the outer periphery of said output member,
the other end thereof arranged spaced apart from the outer
periphery of said magnetic flux control member, said respective
15 ends thereof having a mutual magnetic interaction with said
output member and said magnetic flux control member;

a supporting mechanism for supporting at least said output
member along an inner periphery of said plurality of
electromagnets so that said output member is rotatable in a
20 circumferential direction;

a magnetizing mechanism disposed between said output
member and said magnetic flux control member so as to magnetize
said output member and said magnetic flux control member in
opposite polarities; and

25 a magnetizing current supply for supplying a magnetizing

current to each said electromagnet with a predetermined timing so that each said electromagnet opposed to the outer peripheries of said output member and said magnetic flux control member is magnetized in an opposite polarity at its each end opposing against the outer periphery of said output member with an opposite polarity against a polarity of said output member by said magnetizing mechanism.

2. An electric motor comprising:

a rotor having a pair of movable members disposed spaced apart to and firmly connected to each other, each said movable member formed of a plate-shaped magnetic material and having at least one elevated portion on one side surface thereof in substantially a radial direction for enabling a magnetic flux to converge in a circumferential direction and passing therethrough;

a plurality of electromagnets disposed substantially between respective outer peripheries of said movable members, each end thereof arranged spaced apart from the outer periphery of each said movable member, said respective ends thereof having a mutual magnetic interaction with said movable members;

a supporting mechanism for supporting said rotor along an inner periphery of said plurality of electromagnets so that said rotor is rotatable in a circumferential direction;

a magnetizing mechanism disposed between said movable members so as to magnetize said movable members in opposite

polarities; and

a magnetizing current supply for supplying a magnetizing current to each said electromagnet with a predetermined timing so that each said electromagnet opposed to the outer peripheries of said movable members is magnetized in an opposite polarity at its each end opposing against the outer periphery of said movable member with an opposite polarity against a polarity of said movable member by said magnetizing mechanism.

3. An electric motor claimed in claim 1 or 2 wherein said magnetizing mechanism comprises a permanent magnet.

4. An electric motor claimed in claim 1 or 2 wherein said magnetizing mechanism comprises an electromagnet which is capable of regulating its magnetic magnitude.

5. An electric motor claimed in claim 1 each other end of said electromagnet is connected to said magnetic flux control member.

6. An electric motor claimed in claim 1 wherein each said electromagnet is energized so as to consecutively attract each protrusion arranged at the outer periphery of said output member.

7. An electric motor claimed in claim 2 wherein each said electromagnet is energized so as to consecutively attract each said elevated portion arranged at the outer periphery of said movable member.